ABSTRACT OF THE DISCLOSURE

A system and method of automatically mapping network addresses of a first protocol for a plurality of network elements in a first network to network addresses of a second protocol is described. According to embodiments of the present invention a table is defined and maintained in each network element of the plurality of network elements. An identifier within the first protocol for each network element of the plurality of network elements is assigned and stored in the table. An address corresponding to the second protocol for each network element of the plurality of network elements is also assigned and stored in the table. The first protocol identifier is associated with the address corresponding to the second protocol within the table for each network element of the plurality of network elements. An update timer is further associated with each protocol identifier for each network element in the first network. The first network protocol identifier is propagated from each network element at periodic intervals. The update timer associated with each network element is reset upon propagation of a first network protocol identifier from that network element. If the update timer for that network element reaches a pre-determined count value, the network element is removed from the table.